

Fig. 1A

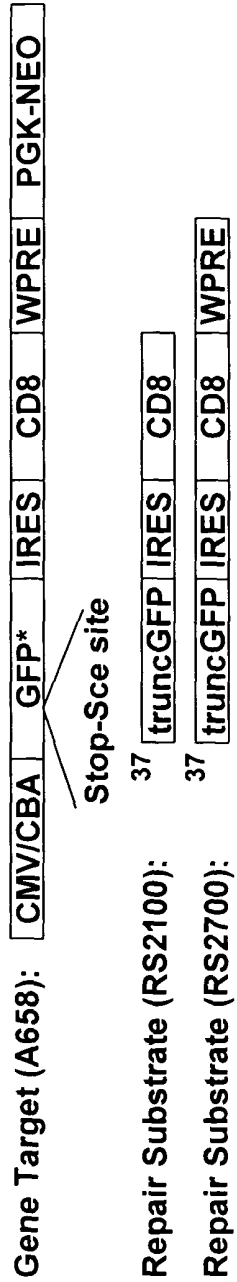


Fig. 1B

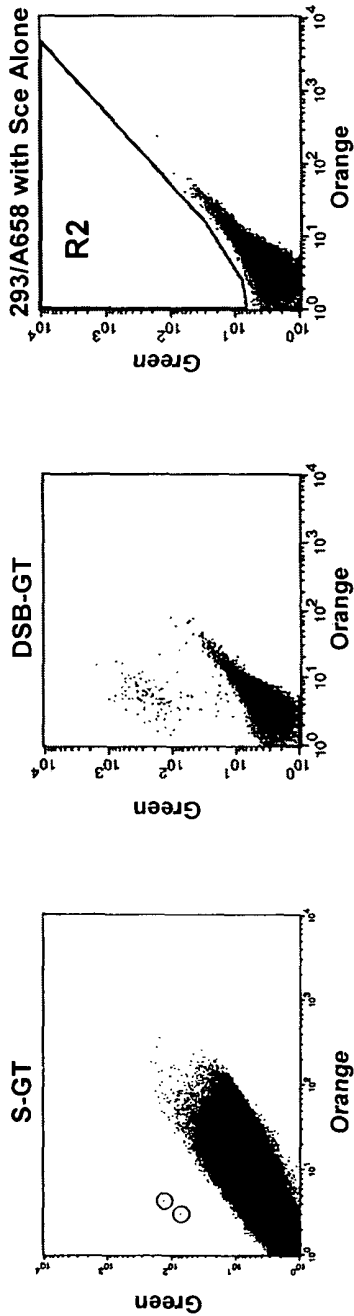


Fig. 1C

Gene Target	<u>1bp insertion</u>		<u>7 bp insertion</u>		<u>35 bp insertion (A658)</u>		<u>35 bp insertion (QQR8)</u>		<u>66 bp insertion (A658)</u>		<u>66 bp insertion (QQR8)</u>		Fold Stimulation By Sce Induced DSB
	No	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	
Events/ 10 <sup>6</sup> cells	29.5 +/- 13.0	1.5 +/- 1.1	1.5 +/- 1.1	0.71 +/- 0.27	1600 +/- 500	1900 +/- 250	>2000						
Rate	2.9 x 10 <sup>-5</sup>	1.5 x 10 <sup>-6</sup>	1.5 x 10 <sup>-6</sup>	7.1 x 10 <sup>-7</sup>	1.6 x 10 <sup>-3</sup>	1.9 x 10 <sup>-3</sup>							

Fig. 1D

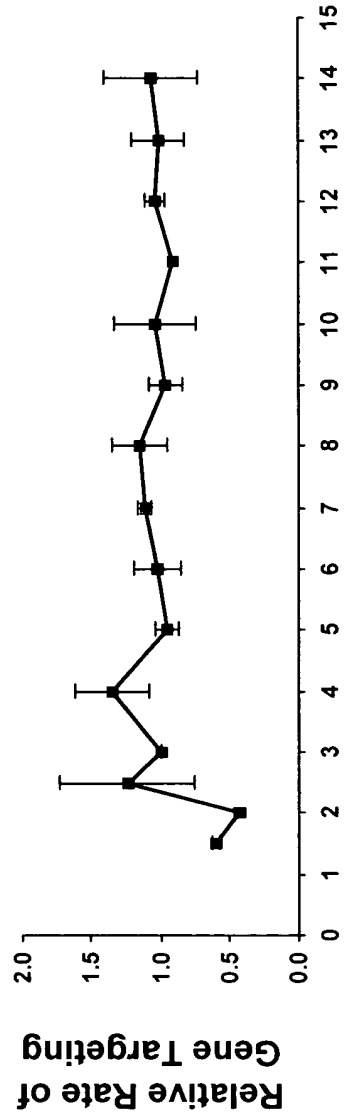


Fig. 2A

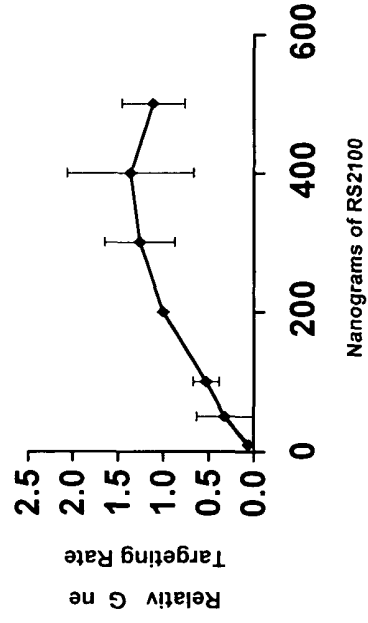


Fig. 2B

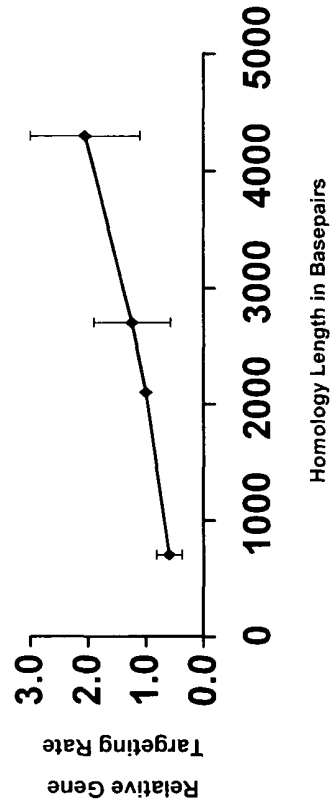


Fig. 2C

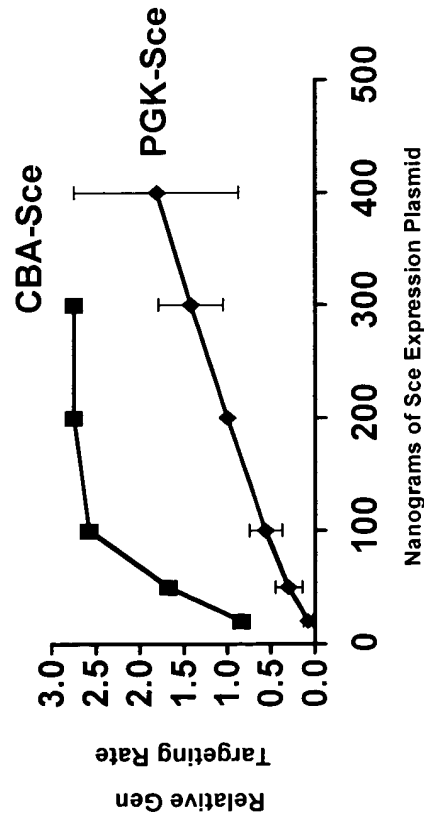


Fig. 2D

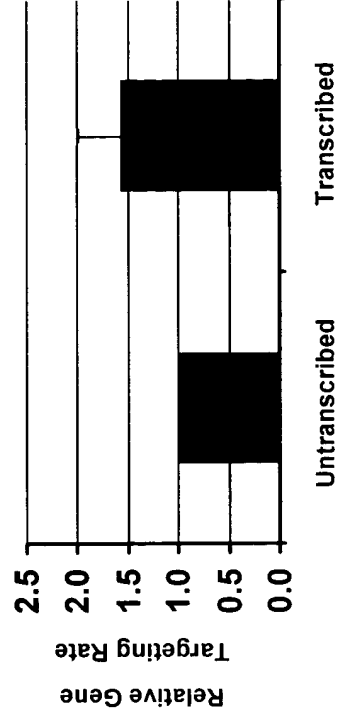


Fig. 2E

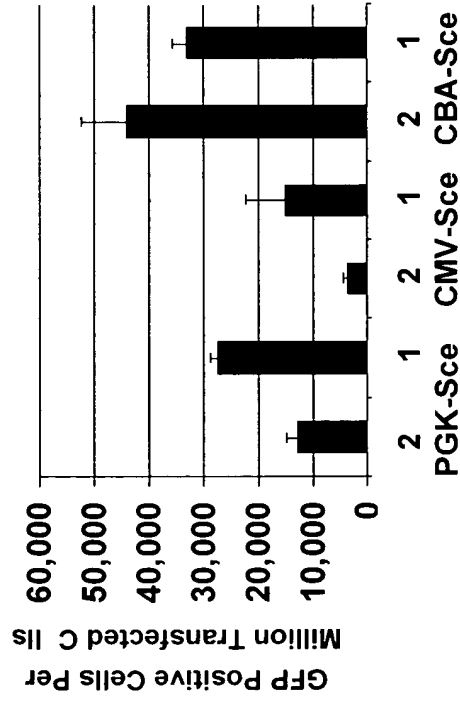


Fig. 3A

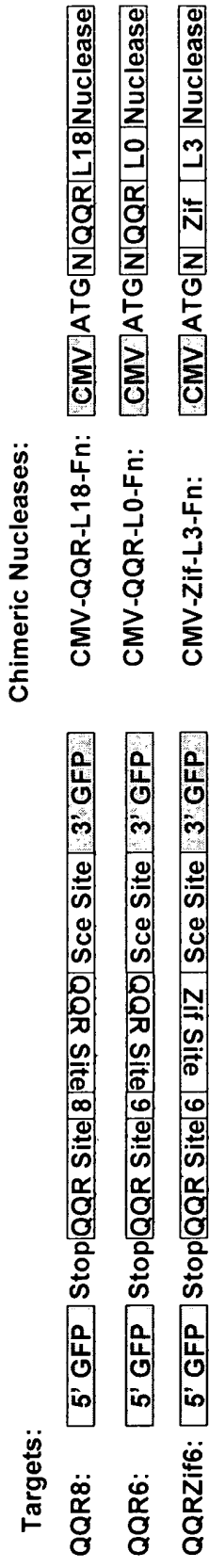


Fig. 3B

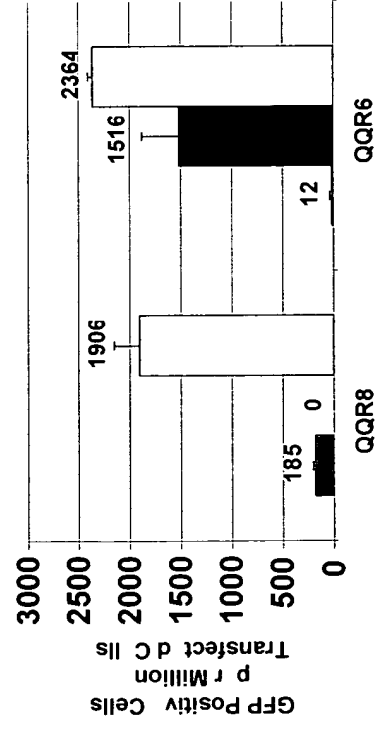


Fig. 3C

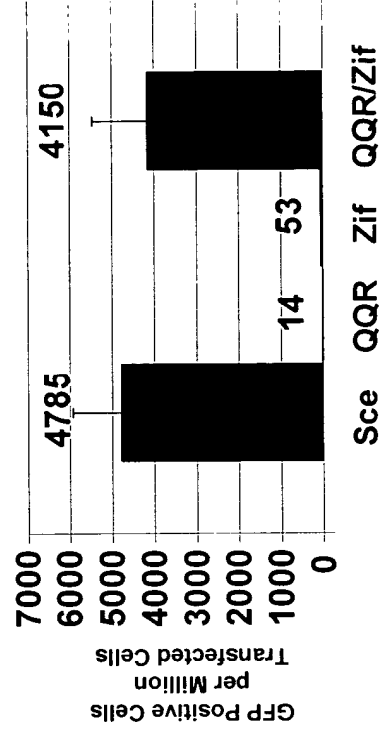


Fig. 3D

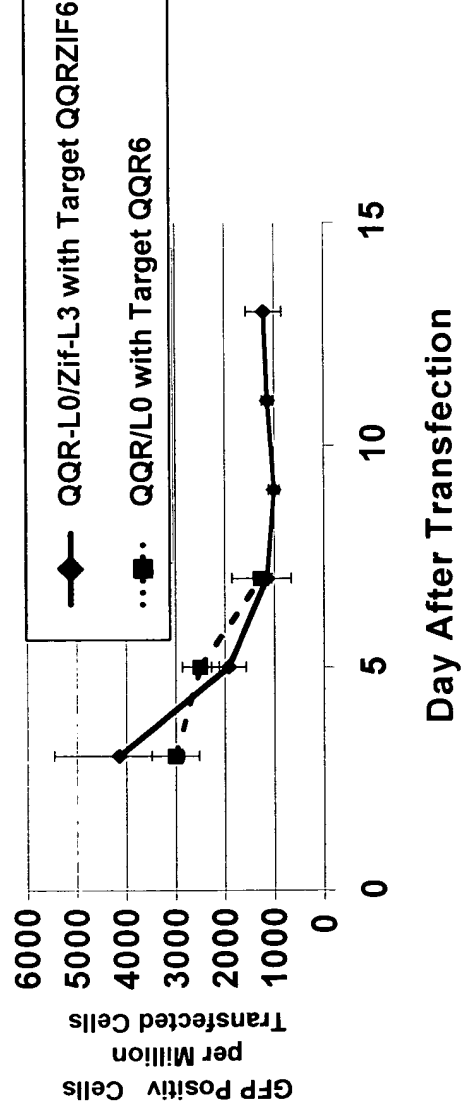


Fig. 4

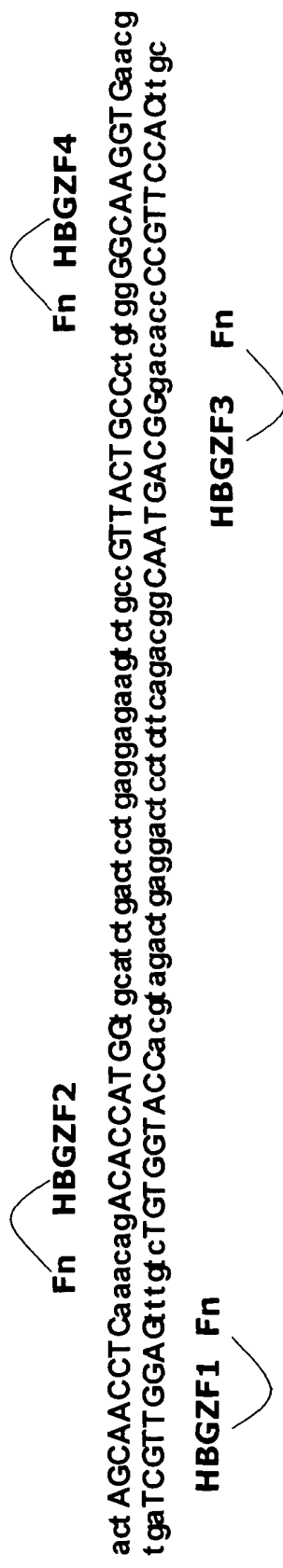


Fig. 5

Design of HBGZF1

Target Binding Site: 5' GAG GTT GCT 3'  
F3 F2 F1

-1 1 2 3 4 5 6  
B3 B2 B1

Finger 1:	GCT	Q S S D L T R	T S G E L V R
Finger 2:	GTT	T S G A L T R	T S G S L T R
Finger 3:	GAG	R S D N L T R	R S D N L V R

Structure of CMV-HBGZF1


 ATG-NLS-FLAG-Finger 1(QSSDLTR)-Finger2(TSGALTR)-Finger3(RSDNLTR)-Fn

Fig. 6

## Gene Targeting with HBGZF1

**Target:** GFP-St op- AGCAACCTQ d aga GCGT GGGC G-SceSt e- GFP  
TOGTT GGA G agat d CGCACCCGC

## HBGZF1 Fn

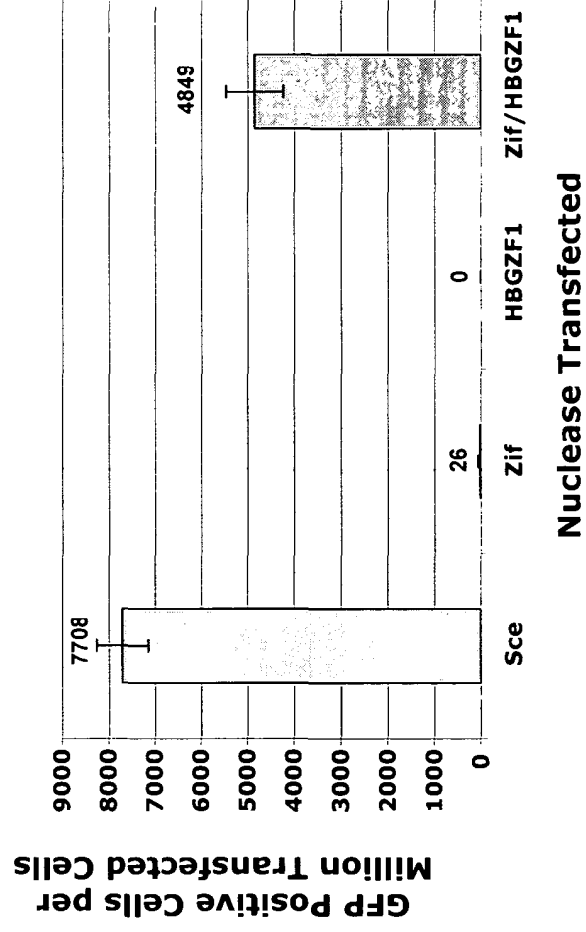


Fig. 7

Design of HBGZF4

Target Binding Site: 5' GGC AAG GTG 3'  
F3 F2 F1

-1 1 2 3 4 5 6  
B3 B2 B1

Finger 1: GTG R S D A L T R  
R S N S L T R

Finger 2: AAG R S D T L S N  
R K D N L K N  
R S S N L T Q

Finger 3: GGC D R S H L A R  
E S N H L T R  
E R S K L A R  
D P G H L V R

Structure of CMV-HBGZF1


 ATG-NLS-FLAG-Finger 1(RSDALTR)-Finger2(RSSNLTQ)-Finger3(DRSHLAR)-Fn

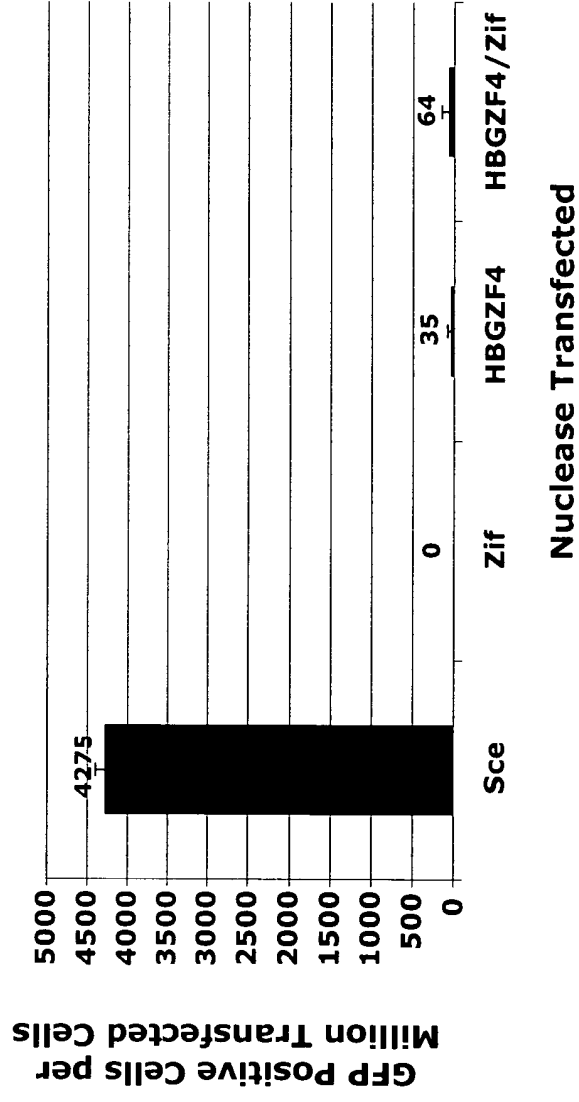
Fig. 8

## Gene Targeting with HBGZF4

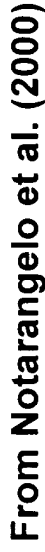
Target: GFP-St op- CACCTTGCQ d aga GCGTGGCG- SceSte- GFP  
GTGGAACGGa gat d CGCACCCGC

Fn ZIF268

HBGZF4 Fn



# Human Common Gamma Chain Deficiency



## Exon 5

HCGZF2

WSXWS motif

**HCGZF1**

Fig. 10

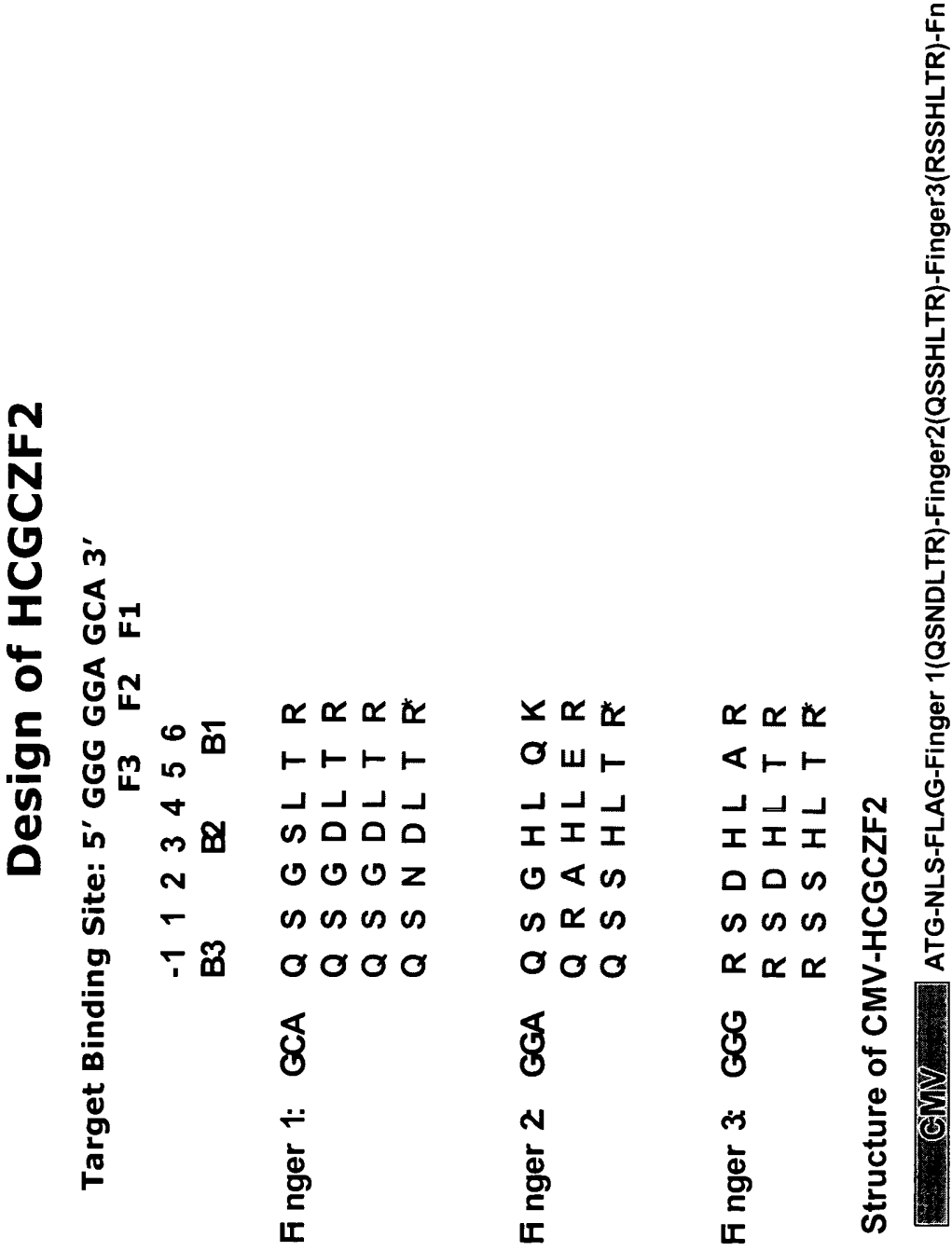


Fig. 11

# Gene Targeting with HCGCZF2

Target: GFP-Stop-TGCTCCCCCQctaga GCGTGGGCG-SceSite-GFP  
ACGAGGGGGGagatct CGCACCCCGC

Fn ZIF268

HCGCZF2 Fn

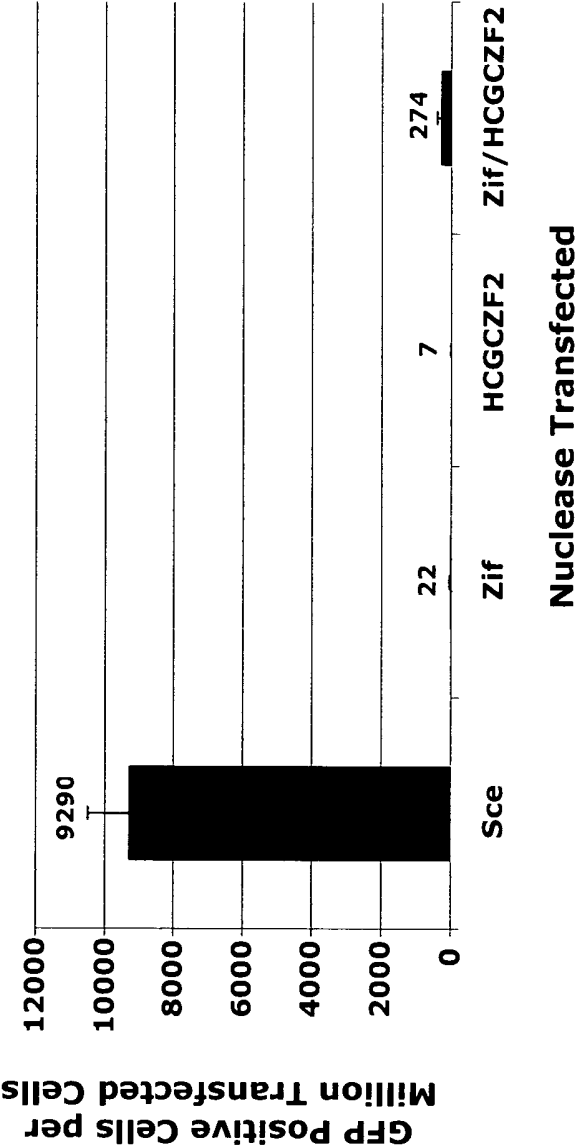


Fig. 12A



Fig. 12B

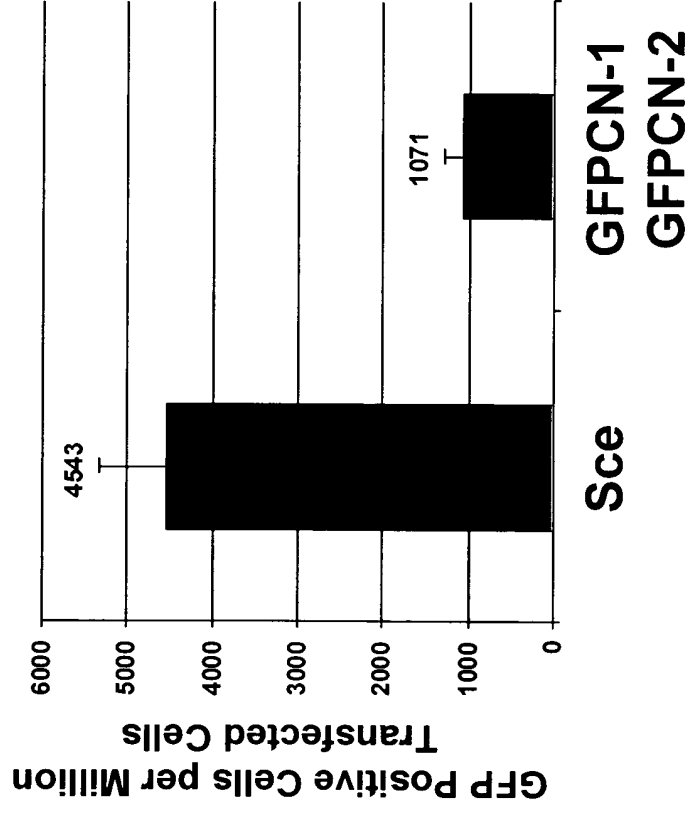



Fig. 13A

bp 441 5' acc ggCgcCcaC ca t cgc G cGca Gcc d g 3' bp 471  
 tgg ccGcg Ggt G g agcg CagCgt Cgg gac

Fn  CD8ZF2


CD8ZF1  Fn

Fig. 13B

